

AMENDMENTS TO THE CLAIMS:

This listing of claims replaces all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A piezoelectric component comprising:
[[-]] ~~having a stack (1) of piezoelectric layers; (2) stacked on top of one another and~~
~~electrode layers (3a, 3b) arranged between~~ at least some of the piezoelectric layers;
~~them, [[-]] wherein the electrode layers (3a, 3b) have~~ defining a middle segment (4) in the
an interior of the stack piezoelectric layers and (1), as well as an end segment segments
between ends of at least some of the electrode layers and an end of at least one of the
piezoelectric layers; (6) delimited by the interior side of a vertical edge zone (5) of the
stack (1);
[[-]] wherein the piezoelectric layers comprise the end segments (6) of the electrode
layers (3a, 4b) are enclosed by a first piezoelectric material at the end segments and a
second piezoelectric material at the middle segment between electrode layers (7), whose
relative the first piezoelectric material having a first expansion that is less than the a
relative a second expansion of a the second piezoelectric material (9), which is arranged in
a middle region (8) between two adjacent electrode layers (3a, 3b).

2. (Currently Amended) The piezoelectric component according to of claim 1, wherein the ~~relative first expansion of the first piezoelectric material (7)~~ comprises at most no more than 95% of the relative second expansion of the second piezoelectric material ~~(9).~~

3. (Currently Amended) The piezoelectric component according to of claim 2, wherein the ~~relative first expansion of the first piezoelectric material (7)~~ comprises at most no more than 90% of the relative second expansion of the second piezoelectric material ~~(9).~~

4. (Currently Amended) The piezoelectric component according to of claim 1 one of claims 1 to 3, wherein ~~the~~ a surface area of an at least one of the edge segments zone (6) comprises at least 5% of ~~the~~ a surface area of the a corresponding electrode layer ~~(3a, 3b).~~

5. (Currently Amended) The piezoelectric component according to of claim 1 one of claims 1 to 4, wherein ~~the~~ a transition in the relative expansion between the first and second piezoelectric material (7, 9) from the first expansion in the first piezoelectric material to the second expansion in the second piezoelectric material is substantially constant.

6. (Currently Amended) The piezoelectric component according to of claim 1 one of claims 1 to 5, wherein the first piezoelectric material ~~(7) is formed from~~ comprises the

second piezoelectric material ~~(9) by diffusing in~~ diffused with a doping material from
originating in at least one of the electrode layers ~~(3a, 3b)~~.

7. (Currently Amended) The piezoelectric component according to ~~of~~ claim 6,
wherein the doping material ~~is~~ comprises copper.

8. (Currently Amended) The piezoelectric component according to ~~of~~ claim 6,
wherein the first piezoelectric material comprises ~~(7) is~~ $\text{Pb}_{0.97}\text{Zr}_{0.56}\text{Ti}_{0.46}\text{Nd}_{0.02}\text{O}_3$ [[,]] with a
copper content of 3-10 mol.%, and the second piezoelectric material comprises ~~(9) is~~
 $\text{Pb}_{0.97}\text{Zr}_{0.56}\text{Ti}_{0.46}\text{Nd}_{0.02}\text{O}_3$ [[,]] with a copper content of 1-2 mol.%.

9. (Currently Amended) The piezoelectric component according to ~~of~~ claim 1 ~~one~~
~~of claims 1 to 5, [[-]]~~ wherein the ~~stack (1) is formed from~~ piezoelectric layers and
electrode layers form a stack that ~~having the~~ has a layer sequence of E-A-B-A-E[[,]]; and
[[-]] wherein E ~~stands for~~ comprises an electrode layer ~~(3a, 3b)~~, [[-]] wherein A
~~stands for~~ comprises a ceramic film that contains the first piezoelectric material ~~(7)~~, [[-]]
and wherein B ~~stands for~~ comprises a ceramic film that contains the second piezoelectric
material ~~(9)~~.

10. (Currently Amended) The piezoelectric component according to ~~of~~ claim 1
~~one of claims 1 to 5, [[-]]~~ wherein the ~~stack (1) is formed from~~ piezoelectric layers and
electrode layers form a stack that ~~having the~~ has a layer sequence of E-C-B-C-E[[,]]; and

[[-]] wherein E ~~stands for~~ comprises an electrode layer (3a, 3b), [[-]] wherein A ~~stands for a ceramic film that contains the first piezoelectric material (7);~~ [[-]] wherein C ~~stands for~~ comprises a layer formed by ~~two adjacent~~ first and second silk-screened layers that are adjacent (10, 11), and B comprises a ceramic film that contains the second piezoelectric material; and

[[-]] wherein the first silk-screened layer (10) ~~contains~~ comprises the first piezoelectric material and covers at least one ~~the~~ end segment (6) ~~of the adjacent electrode layer (3a, 3b),~~ [[-]] and ~~wherein~~ the second silk-screened layer (11) ~~contains~~ comprises the second piezoelectric material (9) and covers at least part of the middle segment (4) ~~of the adjacent electrode layers (3a, 3b).~~

11. (Currently Amended) The piezoelectric component according to ~~of~~ claim 10, wherein the first and second silk-screened layers (10, 11) completely cover ~~the~~ layer B, and ~~each extends~~ the first and second silk-screened layers extend to the ~~an~~ inner edge of at least one end segment ~~the end segments (6) of the adjacent electrode layer (3a, 3b).~~

12. (Currently Amended) The piezoelectric component according to ~~of~~ claim 1 ~~one of claims 1 to 11,~~ wherein the ~~stack (1) is~~ piezoelectric layers and the electrode layers comprise a monolithic sintered compact.

13. (Currently Amended) The piezoelectric component according to ~~of~~ claim 1 ~~one of claims 1 to 12,~~ wherein the electrode layers (3a, 3b) ~~contain~~ comprise copper.

14. (Currently Amended) ~~Method for the production of a piezoelectric component having a stack (1) of piezoelectric layers (2) stacked on top of one another and electrode layers (3a, 3b) arranged between them, wherein the electrode layers (3a, 3b) are enclosed by a first piezoelectric material (7), whose relative expansion is less than that of a second piezoelectric material (9), which is arranged in the middle region (8) between two adjacent electrode layers (3a, 3b);~~ A method for producing a piezoelectric component, comprising:

~~wherein production takes place by sintering a stack (1) of green films and electrode layers to produce a stack comprised of piezoelectric layers and electrode layers arranged between at least some of the piezoelectric layers, the electrode layers defining a middle segment in an interior of the stack and end segments located between ends of at least some of the electrode layers and an end of the stack; (3a, 3b) stacked on top of one another, and~~

~~wherein forming, during sintering, the~~ a first piezoelectric material at the end segments (1) is formed from the ~~a second piezoelectric material (2) via~~ at the middle segment by diffusing, into the second piezoelectric material, in ~~doping materials contained in the electrode layers (3a, 3b) for a period of 4 to 10 hours at a temperature of between 800 and 1500°C, which is reached during sintering, the first piezoelectric material having a first expansion that is less than a second expansion of the second piezoelectric material of the stack (1).~~

15. (New) The method 1, wherein the stack has a layer sequence of E-A-B-A-E, where E comprises an electrode layer, A comprises a ceramic film that contains the first

piezoelectric material, and B comprises a ceramic film that contains the second piezoelectric material.

16. (New) The method of claim 14, wherein the stack has a layer sequence of E-C-B-C-E, where E comprises an electrode layer, C comprises a layer formed by first and second silk-screened layers that are adjacent, and B comprises a ceramic film that contains the second piezoelectric material; and

wherein the first silk-screened layer comprises the first piezoelectric material and covers at least one end segment, and the second silk-screened layer comprises the second piezoelectric material and covers at least part of the middle segment.

17. (New) The method of claim 14, wherein a transition from the first expansion in the first piezoelectric material to the second expansion in the second piezoelectric material is substantially constant.

18. (New) A piezoelectric component comprising:
a stack comprising layers of a first piezoelectric material;
electrode layers arranged between layers of the first piezoelectric material, the electrode layers extending from an exterior of the stack to an interior of the stack, the electrode layers having a length that is less than a length of the stack such that there is first piezoelectric material between an exterior of the stack and end segments of at least some of the electrode layers at an interior of the stack; and

a second piezoelectric material that substantially covers at least some of the electrode layers, the second piezoelectric material having an expansion that is less than an expansion of the first piezoelectric material.

19. (New) The piezoelectric component of claim 18, wherein the electrode layers extend alternately from different exteriors of the stack to an interior of the stack.

20. (New) The piezoelectric component of claim 18, wherein the second piezoelectric material comprises the first piezoelectric material diffused with a doping material from at least one of the electrode layers.